

The Heart in Design: How Cultural Arts Can Inspire Learning Spaces

An Honors Thesis (HONR499)

by

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December 15th, 2017

Expected Date of Graduation

December 2017

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abstract //

Many modern classroom designs can be underwhelming in their approach to innovation and arts-centric design.

In this creative project, I have researched and applied different arts from Japan, Africa, and Indigenous America to the design of a typical classroom. I used these art techniques to reimagine the process of classroom design without the limits of time, money, or building code. I then examined in what ways the designs could impact the pedagogical approach of the teacher in the learning classroom. Lastly, I briefly compared the three classroom designs and examined whether there was any correlation between arts.

These classroom designs are not meant to be taken literally, but rather to be used as a springboard for designing a classroom with a new perspective in mind. They may also be used to develop inquiries into a new and diverse pedagogy.

acknowledgements //

I would like to thank Professor Pam Harwood for her guidance in this project. Her advice is incredibly valuable and her passion for the innovation of educational design is inspiring.

I would like to thank Professors Jason Powell, Tim Berg, and Gary Pavlechko for making my Honors College experience unforgettable, and for their unwavering belief in living a deeply meaningful life.

My thanks extends to Ball State Honors College, for its constant support in the pursuit of deeper thinking.

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process analysis //

Process is integral to architectural design. Multiple considerations shape the project along phases such as design development, construction documents and construction administration. Designs are always in a state of evolving, improving bit by bit to become multimedia masterpieces. Building codes, client values, efficiency of space, cost, longevity and integrity of materials are all vital to the success of an architectural space.

This thesis shatters that process. In the pursuit of viewing and designing space outside of a traditional architectural mindset, *The Heart of Design* seeks to stoke the mind with wild and artful perversions to the design process.

In lieu of the aforementioned design considerations that are typically taken underway in design, I have drawn a typical classroom design and applied a number of "filters" to it, designing based on the result of the filters. Each filter is an abstracted process of cultural art chosen from Japan, Africa, and America, respectively. I have researched traditional processes of art from each country and applied a similar process to the typical classroom design plans. As a result, these designs are not meant to be a blueprints, but rather beautiful stimuli for the designer's mind to reflect on what designs often lack: creativity in process.

Beginning with Japan, I researched a number of different traditional art techniques. From ukiyo-e, or woodblock printing, to chochin, collapsible bamboo lanterns, or even irezumi, Japanese tattooing, there are hundreds of art styles and expressions in Japan. I chose to use origami as the representative art of Japan because of its versatile nature and uniqueness to the Japanese region.

Origami is very versatile as an art form. It can be done in two minutes or two days. This art form is all about manipulating a piece of paper to create a representation of an object or idea. There is a high focus on abstraction and realization of the object, and the miniature art forms are considered to be delicate and beautiful in Japan. This folding concept is what I applied directly to my architectural plans (Origami).

I drew a traditional art plan onto a piece of traditionally square paper and folded the paper into different shapes. I pushed the paper down so it was flat and scanned the face of it to see where the "walls" and "desks" had ended up. These had been scattered and folded, and I traced contours from one side of the plans to extrude on the other side of the plans. This created a four-corner space that was highly vertical. What benefits can a vertical classroom have? Perhaps the teacher can teach about the physics of gravity in a space such as this, in a way he or she would not have been able to in a traditional classroom?

African art is completely different than East Asian art. The process of African art is highly time-consumptive, and often takes a skilled eye developed by years of experience to produce art. Although techniques such as scarification, clay ceramics and headdresses are all popular African art forms, I chose to use wood carving from Africa perhaps partially because it is so well-known, and because it showcases a long-standing African art. The process of this art is painfully slow, but well-rewarding.

process analysis cont //

An artist begins from a living tree, sizes it in his mind, and fells it. He (typically) will take hours to scrap the bark off the tree and shears it down to a manageable size. This process can be convoluted because there could be rotten parts of a tree or a knot that cannot be seen from the outside, in which case, an artist must begin with a new tree. The artist takes the appropriate wood pieces closer to his home and will begin the days-long process of shaving the piece to the outline of what he will carve. He begins by scraping down the large negative spaces, then fine-tunes the creation to represent an animal, god, figurine, or else (Roy).

To apply this technique to my project, I drew my traditional classroom plan onto the face of a portion of Balsa wood. I then used a curved blade to carve out smooth indents and flowing curves from the surface. When the carving was complete, I photographed the Balsa and traced the remaining ink lines from the plan I had drawn in a design BIM program called Rhinoceros. I traced the elevation contours of the face of wood I had carved, lofted all four elevation lines together to create a dynamic floor-ceiling combination, and superimposed the remaining plan lines over the space. Space developed this way is completely separate from a traditional cost-based architectural approach, and I believe there is value in reimagining spaces. What and how can a teacher teach in a space that has a liquid floor? Does the dynamism of the space allow for learning opportunities that did not exist in a rectilinear classroom?

Indigenous American art is, like the others, segregated from modern-day American art – nature is integral to the process of Indian art. The art form that I have chosen to represent Indiana art is wooden basket weaving. This process is focused on beautification over function, and I found that it was a well-respected and highly prized art form in many native tribes. Native Americans first choose a selection of wooden reeds or tree shavings and collect them. They will soak the wooden pieces in water until they are malleable, and then weave them together with dyes to create beautiful basketry (Native American Basketry).

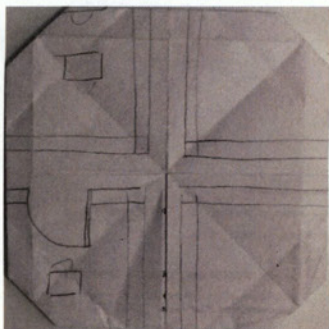
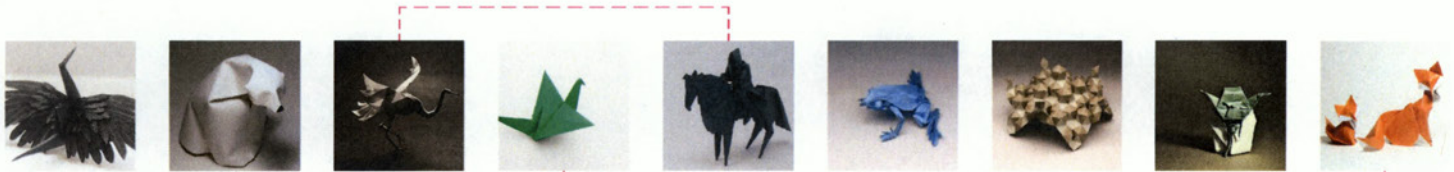
I replicated this process not by the soaking of wood, but by finding a felt-like material that was similar in consistency with a nearly-dried piece of wood. I then drew a traditional classroom plan onto the face of it, cut it into strips, and proceeded to weave the strips together. This allowed me to manipulate the space without any consideration as to how or why, beyond following the native American art process. As a result, walls, doors, and desks were scattered throughout the space in no particular order, but still created a sense of presence for a learning classroom.

I found through my process that by the time I had converted the plans into something entirely new, based on the cultural arts I studied, the filters had little to do with the space at all. The spaces nearly could not be compared, with the exception of the comparison that the process of converting or perverting each plan was very similar. If the research and exploration of this concept were continued, I would suggest exploring ways to integrate lessons for the inspired art into the learning spaces (i.e., teach origami folding in the Japanese classroom, teach carving in the African interpreted learning space, etc.).

japan // origami

Japanese art is broad and famous. There are many types of ancient art forms, and it is difficult impossible to narrow Japanese art down to one collective form. However, there are one or two that are incredibly well-known, because of their strictly Asian values, and origami is one.

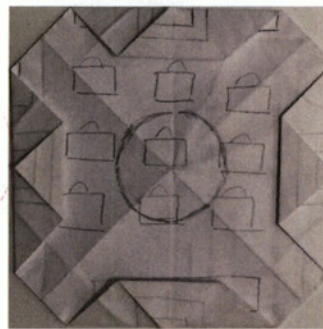
The reason I have chosen origami as the art form to study is because of its versatile nature and uniqueness to the Japanese region. To create this abstraction, I drew a traditional classroom plan onto a piece of square paper. I then performed a number of folds on the paper and took the finished flat pieces and extracted a plan off them. On one side, I drew a base plan, and from the other side I extracted a number of lines, which I then lofted onto each corner of the edited linework plan. This created a four-corner individual space.



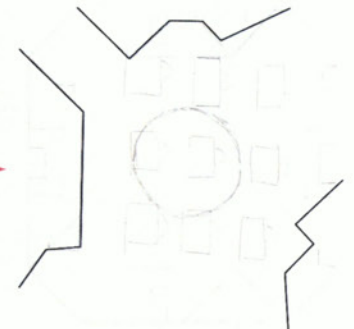
the original folded plan



the edited linework



the original folded plan



the edited linework

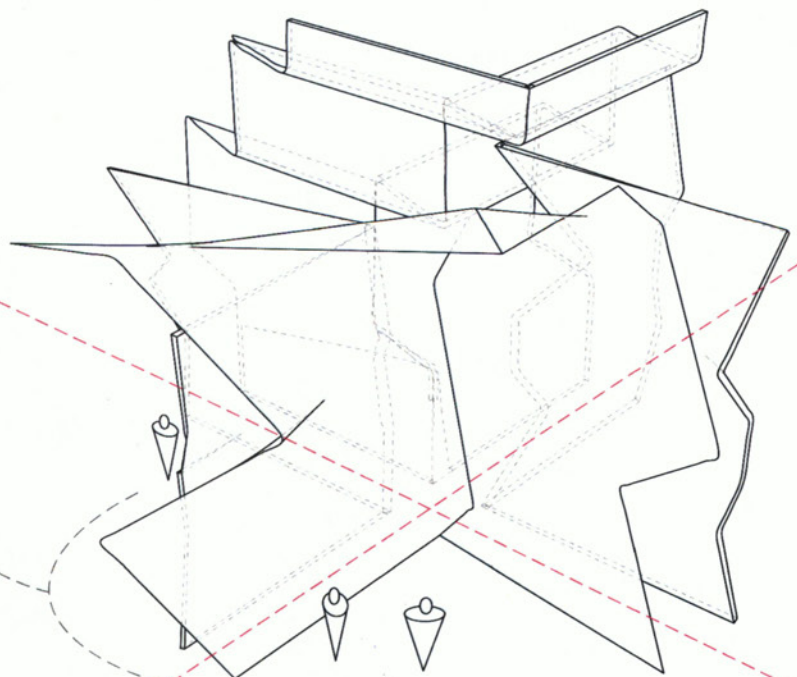
pedagogical inspiration

A professor could stand in the middle, but not be able to see his/her students, because the walls could be a one-way mirror.

Or the students could branch one row out into each corridor of the cross, so they cannot see each other. This could conduct some honesty in opinion.

Maybe this could be a moving classroom, where students venture from one corner to another to learn about different subject manner.

The class could even be conducted from different heights, with a teacher down below and students peering from all different elevations.



interpretation into 3d space

Sources Cited:

All photos found on Google Images under the search "origami art"

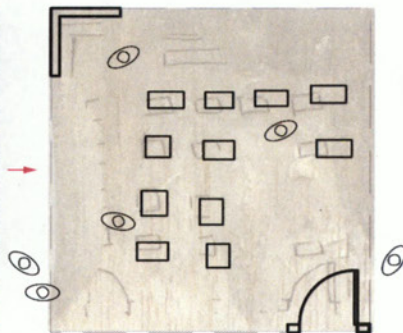
africa // mask carving

African art is completely different than East Asian art. The process of African art is highly time-consuming, and often takes a skilled eye developed by years of experience to produce art. I chose to use wood carving from Africa perhaps partially because it is so well-known, and because it showcases a long-standing African art. The process of this art is painfully slow, but well-rewarding.

To create the idea below, I drew a traditional classroom plan onto the face of some Balsa wood, and then used a curved knife to carve away grooves in the surface. After I was done, I analyzed the remaining plan left to create a general plan of the space. More importantly, though, I drew curved on the elevations of the carved piece, and lofted the curves together to create a continuous "ceiling" and "floor."



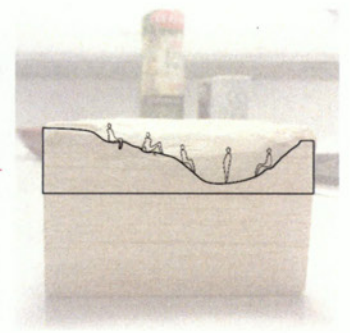
the original carved plan



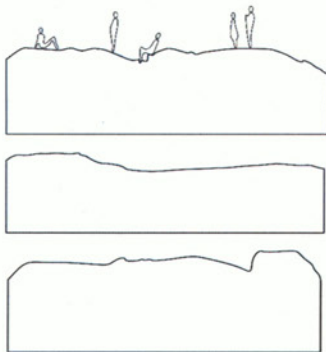
the edited linework



the original carved section



the edited linework

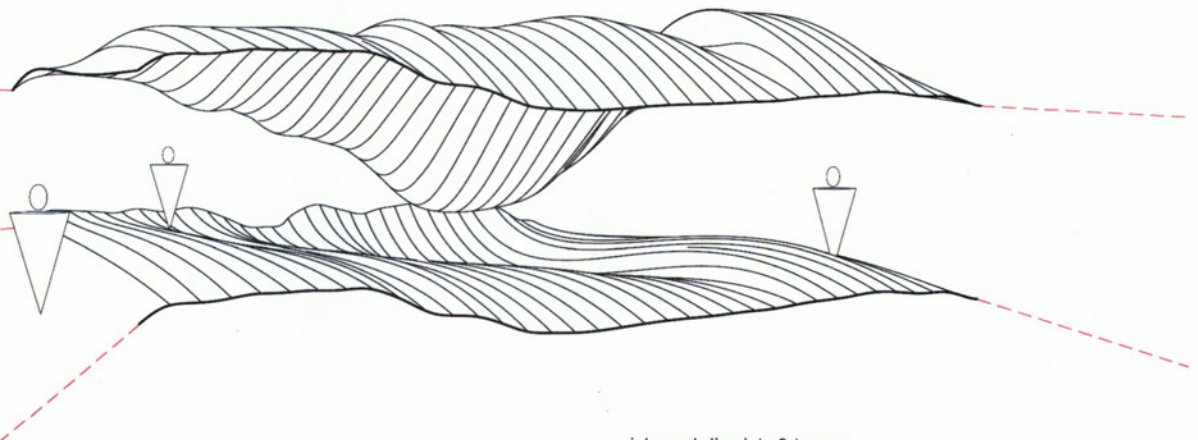


sectional drawings of the carved wood piece

pedagogical inspiration

What would happen if one completely took away the doors of a project and just created a space by defining two corners? Students could gather in the space to present or learn but would not be confined to it.

If all the translated sections were interwoven together, a space could be made from these curves and used for classroom learning. Students could interact vividly with the wild dips and curves of the wooden classroom. Perhaps even blind students could learn by the feel of the learning space alone.



interpretation into 3d space

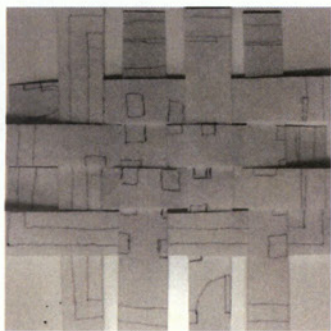
Sources Cited:

All photos found on Google Images under the search "African mask art"

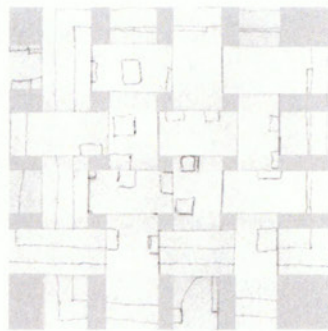
america // basket-weaving

Indigenous American art is completely segregated from modern-day American art – nature is integral to the process of Indian art. The art form that I have chosen to represent Indian art is wooden basket weaving. This process is focused on beautification over function, and I found that it was a well-respected and highly prized art form in many native tribes.

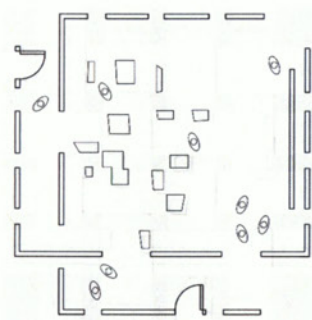
To create this space, I drew a traditional classroom plan onto a piece of stiff felt, much like the feel of nearly-dried wood that native Americans would have used. I then cut it up and wove it into a strip of cloth, and analyzed the result of the remaining ink. I converted the picture into a digital file and traced over the remaining ink lines to develop a plan. I then extruded the plan lines at different elevations so as to make the “walls” appear woven.



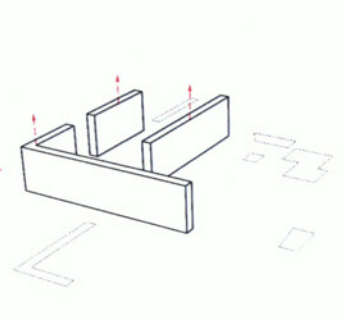
the original woven plan



the edited woven plan



the woven linework



the extrusions

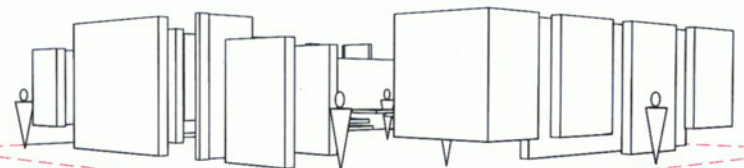
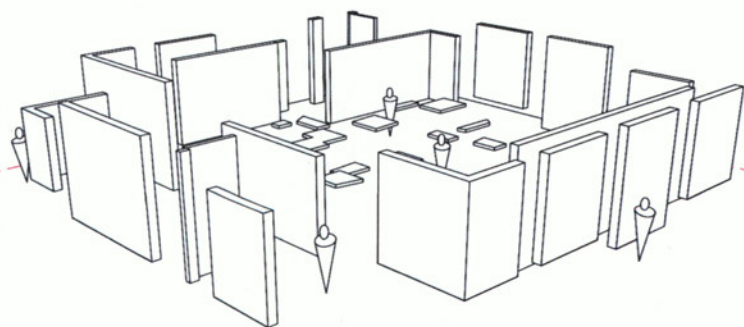
pedagogical inspiration

In this interpretation, the doors and walls are unimportant to the essence of the space: they are merely markers for where the space might begin or end, rather than serving their typical function of enclosure.

This space breaks the traditional square mold that other projects have, while keeping its rectilinear form.

This classroom would be incredibly neat for an art show or a demonstration, or even a music performance. Students would learn focus and intentionality.

Perhaps a teacher could even move the walls, if they were mobile, to form a new classroom based on the lessons of the day.



interpretation into 3d space

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